



**UNITED STATES DEPARTMENT OF COMMERCE**  
**United States Patent and Trademark Office**

Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231

SK

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
-----------------	-------------	----------------------	---------------------

09/577,313

05/24/00

BARANDA

P

OT-4190A

026584

PM82/0621

OTIS ELEVATOR COMPANY  
INTELLECTUAL PROPERTY DEPARTMENT  
10 FARM SPRINGS  
FARMINGTON CT 06032

EXAMINER

TRAN, T

ART UNIT

PAPER NUMBER

3652

DATE MAILED: 06/21/01

6

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

## Office Action Summary

Application No.  
**09/577,313**

Applicant(s)  
**Baranda et al.**

Examiner  
**Thuy V. Tran**

Art Unit  
**3652**



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on Mar 23, 2001.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 23-33, 35, and 38-43 is/are pending in the application.
- 4a) Of the above, claim(s) 25-27, 40, 42, and 43 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 23, 24, 28-33, 35, 38, 39, and 41 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some\* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

### Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892) 18) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 19) ☐ Notice of Informal Patent Application (PTO-152)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). \_\_\_\_\_ 20) ☐ Other: \_\_\_\_\_

Art Unit: 3652

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 23, 24, 28-30, 35 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over GB 2,162,283 A in view of Wilcox 4,624,097.

GB '283 discloses a traction drive for an elevator system comprising a plurality of tension members, Figs 3-7, each having an aspect ratio (w/t) of greater than one and comprising a plurality of individual load carrying ropes formed from non-metallic material (incorporated by GB 2,134,209 A), each tension member further includes a coating layer separating the ropes and define an engagement surface for the tension member. A traction sheave, Figs. 1 & 2, having a pair of retainers located on opposite sides, a plurality of traction surfaces 13 each being configured to receive the engagement surface of the tension members, and dividers 12 for separating the plurality of traction surfaces.

Wilcox '097 teaches a use of polyurethane as a coating layer 32 for encasing load carrying ropes 24 of a tension member in order to minimize abrasion resistance of the tension member, and retain the shape as the tension member bends around small curves.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilized polyurethane as a coating layer for the tension member of GB '283 as

Art Unit: 3652

taught and suggested by Wilcox in order minimize abrasion resistance of the tension member, and retain the shape as the tension member bends around small curves.

With regard to claim 39, it would have been obvious to one having ordinary skill in the art at the time the invention was made to design an elevator system not exceeding the maximum rope pressure, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art.

3. Claims 31 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over GB 2,162,283 A in view of Wilcox 4,624,097 as applied to claim 23 above, and further in view of Sapozhnikov et al. 3,910,559.

The modified traction drive of GB '283 discloses all the claimed limitations except for having a roller disposed proximate to the traction sheave and engage in rolling contact with the tension member.

Sapozhnikov et al. '559 discloses a hoisting apparatus having roller 7 disposed proximate to the sheave and engaged in rolling contact with the tension member for preventing the rope from slipping over the sheave. It would have been obvious to one having ordinary skill in the art at the time the invention was made to further utilize the guidance roll for the modified traction drive system of GB '283 as disclosed by Sapozhnikov et al. '559 in order to prevent the tension member from slipping out off the traction sheave.

Art Unit: 3652

4. Claims 33, 38 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over GB '283 in view of Wilcox as applied to claim 23 above, and further in view of either one of Bruns 3,279,762 or O'Donnell et al. 5,881,843.

The modified traction drive of GB '283 discloses all the limitations except for having a traction surface formed from polyurethane and which is bonded to the traction sheave.

Bruns '762 discloses a traction surface 23 formed from polyurethane and bonded to the traction sheave 11.

O'Donnell et al. '843 disclose a traction sheave 24 having a traction surface 36 formed from polyurethane.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have further employed a traction sheave surface formed from polyurethane for the modified traction drive system of GB '283 as taught and suggested by either Bruns or O'Donnell in order to provide better traction for the drive system and better life cycle for the tension member

#### ***Response to Arguments***

5. Applicant's arguments filed March 23, 2001 have been fully considered but they are not persuasive.

In response to applicant's remark that it is unclear whether GB '283 relates to a traction drive or to a drum drive winding machine. GB '283 discloses in Figure 2 that the dividers 12 are parallel (not helical) to two retainers of the traction sheave. Thus, it is reasonably concluded that the system disclosed by GB '283 is a traction type. Further, if it is a winding drum system, it is

Art Unit: 3652

still readable on the claimed invention because the contact between a tension member and a sheave in the winding drum system is traction. In conclusion, in either case, the system disclosed by GB '283 is a traction drive type (as broadly claimed) where the traction between a sheave and a tension member moves the car and the counterweight.

6. Applicant's arguments with respect to claim 23 that none of the prior art of record discloses a polyurethane coating have been considered but are moot in view of the new ground(s) of rejection.

7. Applicant's arguments with respect to Pearson reference have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

Art Unit: 3652

however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Glandenbeck et al. disclose a polyurethane coating layer for a tension member.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thuy v. Tran whose telephone number is (703) 308-2558.

  
EILEEN D. LILLIS  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 3600

TVT (TVT)

June 18, 2001